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EARLY SCHOOL ADMISSION FOR MENTALLY ADVANCED CHILDREN, A REVIEW OF RESEARCH AND PRACTICE.

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RESEARCH AND SCHOOL SYSTEM POLICIES ON EARLY ADMISSION ARE REVIEWED IN THIS PUBLICATION. ARTICLES INCLUDE (1) "THE EARLY ADMISSION ISSUE" BY MAYNARD C. REYNOLDS, (2) "REVIEW OF RESEARCH ON EARLY ADMISSION" BY MAYNARD C. REYNOLDS AND OTHERS, (3) "THE BROOKLINE MASSACHUSETTS PROGRAM OF EARLY ADMISSION TO KINDERGARTEN" BY JAMES R. HOBSON, (4) "THE EARLY ADMISSION PROGRAM IN EVANSTON, ILLINOIS" BY VERA V. MILLER, (5) "THE EARLY ADMISSION PROGRAM IN MINNEAPOLIS, MINNESOTA" BY SARAH F. HOLBROOK, AND (6) "TWELVE YEARS OF EARLY ADMISSION IN NEBRASKA" BY MARSHALL S. HISKEY. A 110-ITEM BIBLIOGRAPHY IS INCLUDED. THIS DOCUMENT IS AVAILABLE FROM THE COUNCIL FOR EXCEPTIONAL CHILDREN, 1201 16TH STREET, N.W., WASHINGTON, D.C. 20036, FOR $2.00. (JP)

Early School Admission for Mentally Advanced Children

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A Review of Research and Practice

Edited by Maynard C. Reynolds

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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A CEC Special Publication

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1 The Early Admission Issue

Maynard C. Reynolds

Most schools admit children to kindergarten or first grade according to a strict chronological age criterion. But consider the case of Judy. Was an exception justified?

Judy was born on May 1, 1952. In her community the "cut-off" birthdate for entering kindergarten was January 1. In 1956, as her friends started kindergarten in early September, Judy was "too young" by four months. She "should" enter, according to the calendar and her birthdate, one year later. But everyone who knew Judy at this time recognized her as an exceptionally bright child. Her speech and language were quite remarkable. She played with older children. Judy had been delighted with nursery school for two years and had a very rich background of experiences in her home. She knew how to write her name and could recognize many simple words. Physically, Judy was not large, but was healthy. She was a happy, outgoing child who almost literally ached to go to school—but, again, she was too young by four months.

Judy's parents were concerned enough about making suitable plans for her that they consulted the principal of the neighborhood school. The principal interviewed Judy and was impressed by her obvious maturity. He arranged an appointment with the school psychologist.

The psychologist reported that Judy's IQ was about 160. Although she was only four years, four months in chronological age, as school started, she was already approaching the seven year level in mental ability. If she waited another year, her mental ability during kindergarten would range from about eight and one-half to ten year levels. Clearly, Judy's intellectual ability was adequate for early admission to kindergarten. Since she appeared ready in other respects as well, early admission was recommended.

Perhaps Judy's case is clear. But in most school districts she would have been required to wait another year.

The issue to be considered in this bulletin is the admission criterion of rigid adherence to chronological age vs. more flexible procedures. The bulletin presents a summary of the relevant research and describes practices in a number of communities in which the flexible option is working.

"Early admission" is one form of acceleration for bright and gifted pupils. It enables selected children to complete their education at earlier ages than normal or to complete more advanced training before leaving school. Obviously, early admission is not the only form of adjustment necessary in school programs for bright pupils. It is the thesis of the authors of this bulletin, however, that it does provide one important and useful means of adjustment in the school program for the precocious child if used with appropriate care.

Present Admission Procedures

In 1958 the Research Division of the National Education Association reported an extensive survey of the admission policies of school systems throughout the United States (NEA, 1958). A questionnaire was sent to all urban school districts over 100,000 in population, to more than 400 smaller urban districts, and to a selected group of county and suburban systems. Of the 642 districts receiving the questionnaire, 532, or 83 percent, responded. A chronological age of four years, eight months or four years, nine months (4-8 or 4-9) was given as a criterion for admission to kindergarten in 60.0 percent of the 417 systems having kindergartens. Entrance age in the remaining systems ranged from 4-0 to 5-0 with very few outside the 4-6 to 5-0 range. The majority of schools, 50.4 percent of the 532 reporting, required a minimum age of 5-8 or 5-9 for admission to first grade. The range was from 5-3 to 6-8. Only 6.6 percent of the 532 systems reported having no established entrance age.

Changes in the required minimum age have been in an upward direction in recent years. That is, there is a tendency to require children to be older for entrance to kindergarten or first grade. Another trend in admissions, although perhaps not as widespread, is that of allowing exceptions to be made. In the NEA survey it was shown that about one school district in five allowed some exceptions to the chronological age requirement for admission to school. Psychological tests of intelligence, maturity, and social development were the criteria most often used in making decisions to admit underage children. Conferences with parents were generally a part of the procedure also.

An opinion poll conducted and reported by *The Nation's Schools* in

1955, showed that about half of the school superintendents of the country (52.9 percent in the poll) were favorable "in theory" to entrance based on mental, physical, and emotional maturity. But, in general, superintendents felt that because of practical problems, such as test unreliability, parental opposition and lack of funds, it was best to retain chronological age as the single control on admission.

The Importance of the Early Admission Issue

Issues concerning early school entrance of bright children have provoked lively discussion for a long time. Comiskey (1957) reviewed early literature on the entrance problem and showed that concern existed in this country in the early part of the nineteenth century. The problem has never lacked controversy. For a number of reasons, however, it appears more important now than ever before that school officials look closely at the problem. Some factors contributing to the current importance of the problem are discussed below.

Increasing Demand for Talent of High Level

It is increasingly clear that our nation cannot afford to be wasteful of manpower in any form. More people of high ability are needed now than ever before in virtually all of the professions and technical specialties, and this demand is accelerating. If bright children can be educated at earlier ages than is now the case, or if they can be carried to higher levels of proficiency without a general change in school-leaving age, there are obvious and important gains in the size and quality of the work force of the nation at the most complex levels. Human time is irrecoverable, and if an individual enters his profession later than necessary or with less training than he should have, there is obvious waste. Worcester has estimated that if three percent of school children could save one year each by acceleration, "our country would have gained for its use more than 1,000,000 years of its best brains in a single generation" (1956, p. 34).

Longer Periods of Formal Education

The problem of freeing time for productive work by our most capable individuals is growing because of increases in the length of training programs. The military service requirement further delays the advanced training of many young men.

In the period 1870 to 1950, graduate school enrollment in the United States more than doubled in every decade except two, and further rapid increases are expected in the several decades just ahead. Pressey (1949) reported that before World War II the average age for completion of the Ph.D. in this country was about 32. Although remarkably few data are available on this topic, it appears that this average has not been reduced in recent years. It should be of concern that in Germany (where the modern doctorate originated) "the completion of the doctorate averaged six years earlier . . . " than in the United States (Pressey, 1949, p. 57).

Not only are more students returning for graduate work, but periods of training are becoming longer. Similarly, time required in professional training has increased in most fields in recent years. These observations should remind the school worker that in deciding upon early admission for a bright child he may, in effect, be deciding whether the individual enters his profession at age 32 or 33. The concern must be not only with the initial adjustment of the child in kindergarten or first grade, but also with his adjustment in early adulthood.

Delay of Normal Adult Status

Because bright students take long periods of training, usually with little or no remuneration, they often face burdensome personal problems in early adulthood. If they stay in school into the third and fourth decades of their lives, it frequently means long periods of economic instability, late marriage, delayed child-rearing and many other problems and sacrifices. Such personal problems are deterrents and delaying factors in higher education. Both from the view of individual welfare and societal gains, these personal problems are of serious magnitude. Terman's data (1947) show that accelerated students do marry and raise their families at younger ages than non-accelerants. It is likely that other advantages also go to the accelerated student.

Evidence on Ages of Peak Productivity

Lehman (1953) has presented evdence showing that the most productive or creative period of life is that of early adulthood. Especially in such fields as science and mathematics does the evidence show early ages of peak productivity. From these data, concern has arisen that by delaying advanced training we may be mortgaging the most creative period of life for formal education rather than freeing it for more creative enterprise. Dennis (1958) has questioned some of Lehman's conclusions by proposing a different interpretation of the Lehman data. Despite the controversy in the field, most students of these affairs would agree with the following statement by Anderson:

> " . . . when we look at each one of the specialized areas which now make demands upon talent, we see an increasing tendency to prolong the professional

training in order to master the basic knowledge and skills which have been increasing along with the growth of knowledge. Hence the tendency in our society is to postpone freeing the individual for his creative effort to later periods of the life cycle. But we may have to reverse this trend and ask whether we can locate high ability earlier, how we can better organize the education and stimulation of the person as he grows, and how we can motivate him to long and continued effort within the area of his ability. Actually this is what has happened in our search for athletic skills and in our search for the skills that are involved in entertainment, where pressures for more skilled training and for good form have been pushed down to younger age levels. By comparison we have hardly concerned ourselves with this problem in the intellectual sphere" (1960, p. 28).

Practical Problems of Early Admission

The establishment of a program of early admission for mentally advanced children poses several practical problems. General criteria of intellectual, physical, social, and emotional development are well established through research, but they must be carefully individualized to suit the unique qualities of each school system. A first problem is to establish specific criteria for early admission.

Providing the necessary personnel and resources to screen and evaluate children is a second major problem. The employment of well-trained psychologists is a necessity and will cause budgetary problems in some communities. It is a weakness of early admission programs in many communities that only a limited number of children are given careful preschool examinations. Screening programs should be operated uniformly throughout the community so as to cover all children.

A third problem in some communities may be that of providing classroom space, since a temporary increase in enrollment is created when the program is initiated.

A fourth problem or challenge is that of interpreting the program to the school staff, parents, and the community at large. Much guidance in meeting this problem is available through experience in many school districts. Work now underway in a demonstration project in Warren, Pennsylvania is revealing further dimensions of this problem (Birch, 1962).

A fifth problem is providing for continuous evaluation of the program. Many communities have had early admission programs for as long as a quarter of a century and they have provided many guides to program development and evaluation.

Summary

The present bulletin will consider research and practices related to flexible school admission procedures. Most schools now admit children according to a strict chronological age criterion. Although admission procedures have long been controversial, it now appears more important than ever before to seek resolution of the issue. The needs of precocious children, the increasing demand for high level talent, the growing tendency to prolong educational programs, the personal problems associated with delay of normal adult status for the gifted, and evidence regarding early ages of peak productivity all point to the necessity of early admission to school for the mentally advanced.

The problems of establishing a workable program of early admission are many. Specific criteria must be based on sound knowledge and research, adapted to the needs of the community. Staff and resources for screening entrants, additional classroom space, school and community understanding, and a continuous policy of evaluation are practical requisites. It is important that each community plan a systematic evaluation of its operations as it launches an early admission program.

Chapter II of this bulletin examines research of the factors determining school readiness and evaluations of early admission programs. The remaining chapters describe successful programs in a large city, a smaller city, a suburban community, and throughout a state. In each instance, authors have provided information on community background, history of the program, operating policies, and evaluation procedures. A number of case studies of individual children describe detailed procedures used.

2 | Review of Research on Early Admission

Maynard C. Reynolds, Jack W. Birch & Alice A. Tuseth

If admission to school based upon factors besides chronological age is to be considered, a first task is to specify what these other factors might be. In this chapter a review of selected research on readiness for school will be provided. Some of the factors or variables to be considered are: chronological age, mental age, physical maturity, emotional and social maturity, and sex. It is now widely agreed that no single criterion is adequate as the determinant of school admission. The orientation should be to multiple criteria.

This chapter will also review research evaluations of early admission programs as conducted in a number of communities. Consideration is given to the long-range implications of early admission as well as to the immediate adjustment of early-entering children in kindergarten or first grade.

An exhaustive review of studies on these topics is beyond the scope of the present bulletin. Only literature judged to be especially relevant to the early admission issue is summarized. Readers wishing to have a comprehensive review of research on acceleration are urged to read Keys' (1938) summary of research up to 1938 and the Pressey monograph (1949) which covers research up to 1949. Reviews of more recent research may be had from a number of sources. Worcester's book (1956) probably provides the most extensive reports of research on the early admission issue of any recent volume. The bibliography included in the final pages of the bulletin will be useful to those who wish to make a full review of the relevant research.

Factors of School Readiness

Chronological Age

Chronological age (CA), now virtually the only factor considered in admitting children to school in most school districts, is obviously one variable to be considered in setting school admission policies. Programs as now conducted in most kindergartens are adjusted to four and five year old children and would be inappropriate for most older or younger children.

Among unselected children entering kindergarten and first grade, the younger ones generally do not achieve or adjust as well as those who are older. Carter's study (1956), for example, contrasted 50 underage and 50 normal age children in grades two through six. The underage children did not equal the scholastic achievement of normal age children. Studies by Hamalaenin (1952) and King (1955) produced similar findings.

A somewhat more complex study, which involved comparisons of groups formed according to combinations of CA and MA, has been reported by Forester (1955). Forester studied records of 500 pupils in the kindergarten through high school. For purposes of his study, children were grouped into six CA segments and six MA segments, according to relative standing in CA and MA for grade placement. He concluded that very old-very dull pupils did not do well in school, that the very old-very bright excelled throughout the school years and that the very bright-very young pupils had difficulty from junior high on. The latter finding is one of the exceedingly few research findings which might be considered negative to early admission for bright pupils.

Studies such as those of Carter and Forester, which show CA to be an important variable in school admission procedures, should not obviate consideration of other variables. Since CA shows a substantial correlation with many other variables, such as physical and social maturity, in any broad group of children, its chief merit may be its somewhat indirect reflection of a child's general maturity level. When one considers a relatively narrow range in CA, however, the correlation with other variables is not high and we may do much better by going directly to other variables in setting admission standards. It is also important to note that studies of retrospective design which compare children of various CAs in school adjustment and achievement have not touched the really central issue of early admission for children *carefully selected* on variables other than CA.

Most children now admitted to kindergarten vary in CA from about 4-8 to 5-8. Holding strictly to such a range has the advantage of being convenient, objective, and easily understood. It is the present thesis that exceptions should be made to accommodate certain children who are below the standard age for school admission. The means for selecting these exceptional cases is the principal topic of discussion for the remainder of this bulletin.

Some states have established statewide minimum CA standards for admission to school. The present writers see no objection to such action, but it is considered most unfortunate if the standards fail to provide for exceptions when appropriate procedures for early admission are applied. Worcester's reports (1956) on Nebraska show extraordinary success in a carefully developed early admission program in a state having a general statewide "cut-off" date.

Although not immediately relevant to the early admission issue, it is of interest that in some English-speaking nations—including Scotland, England, New Zealand, and Australia—children are admitted to formal school programs, which include instruction in reading, at ages up to a full year younger than in the United States. It is possible that further research and changes in instructional methods will make a general change in school-entering age advisable in this nation.

Mental Age

Mental age (MA), measured by individual intelligence tests, is more closely related to school achievement at all grade levels than CA. Kazienko (1954), for example, found MA was a better predictor of success in school than either IQ or CA. Hobson (1956, 1948) has established that MA is a workable criterion for admission to school. Stake (1960) has developed actuarial tables showing the very substantial relationships between preschool MAs and achievement levels in elementary grades.

In most communities which have flexible admission programs the major evidence required for early admission is relatively high MA. The minimum MA for early admission to kindergarten varies from 4-10 in some schools to as high as 6-0 in others. Sometimes a lower limit in CA is set along with a minimum MA requirement. For example, one school district allows children to be up to six months underage in CA, but sets a minimum MA of 5-2 for admission to kindergarten.

Administering an early admission program puts heavy emphasis upon individual psychological examinations and requires the employment of well-trained school psychologists. Fortunately the schools are rapidly becoming employers of psychologists who are prepared for this special work. Most school psychologists welcome the opportunity to participate in early admission programs. They are often helpful in interpreting the program in the community and in conducting evaluations of the program as well as in the testing and related activities with individual children.

The test most commonly used by school psychologists in assessing intelligence of children is the Stanford-Binet Intelligence Test (Terman & Merrill, 1960). Although results on this tend to be more reliable at later ages, they are sufficiently reliable at school-entering ages to be highly useful (Bayley, 1955). It is unlikely that a child who receives a high score in testing for early admission will prove to be significantly lower in relative intelligence in later testing. Enough experience has been cumulated in many communities to establish the reliability and usefulness of individual psychological test results given at pre-kindergarten ages when interpreted by well-trained psychologists.

Physical Maturity

One of the variables about which there are often expressions of concern in early admission programs is physical development. Since early admission is proposed only for bright children, it is relevant to consider the relationship between giftedness and physical development.

In general, gifted children tend to be heavier, taller, and more mature physically than average children. Olson and Hughes studied a series of children's records which had been collected in a laboratory school. In describing growth patterns of gifted children, they observed that: "Their physical attributes tend, on the whole, to lie above the average typical of children in general but tend to be less highly developed than the intellect which so often constitutes the chief basis for the identification of the gifted" (1950, p. 62).

Hollingworth, after considerable investigation of the physical and motor development of children, comes to these conclusions about intellectually gifted children: "They tend to be tall and heavy, and to maintain a high ratio between height and weight" (1926, p. 110). She found that gifted children with an IQ of about 150 at 10 years of age are on the average as large, strong, and swift as average unselected 11½ year olds, while intellectually they can do the work of 15 year olds.

In the Stanford University *Genetic Studies of Genius*, physical superiority was found to be one characteristic of gifted children. In 1923, 37 anthropometric measures were made of 594 gifted subjects, most of whom were between the ages of seven and 14 at the time. The findings of the study were summarized as follows: "The gifted children as a group were above the best standards for American-born children in growth status as indicated by both height and weight; they were also above the established norms for unselected children in California. In lung capacity, considered in relation to height, weight, and age, the means for the gifted subjects were above the Baldwin norms. The gifted subjects on the average exceeded the norm groups in breadth of shoulders and hips and in muscular strength. In all respects the results of the measurements showed that the gifted group was slightly superior physically to the various groups used for comparison" (Terman and Oden, 1947, p. 20).

Hobson (1948) reported that the underage superior children admitted early to Brookline Schools over a period of many years could not be distinguished physically from their older classmates after the kindergarten year, if then. Similar observations have been reported from the Nebraska studies (see Chapter VI) and from a number of communities in which early admission has been tried. The Nebraska studies have been conducted on a broad group of bright children, many of them below the "gifted" category. It is to be noted, of course, that excellent health and physical maturity are usually included among criteria of admission.

The notion that bright and gifted children are physically immature and susceptible to disease has been refuted by careful studies. Not all bright children are physically mature enough to enter kindergarten or first grade at ages younger than normal, but many of them meet this criterion quite adequately. The tendency in communities having early admission programs is to evaluate the physical development of individual children, rather than to prescribe definite criteria such as minimum height or weight standards. A few communities require examinations by physicians of all early-entry candidates.

Actually, there is no evidence that physical development is a relevant variable in determining whether or not children should enter school early. It may be more important to ascertain that the child is in good general health than to learn whether he is tall or short, stocky or thin, well-coordinated or awkward. Attention to problems of health is always important, whether or not early admission procedures are followed.

Social and Emotional Adjustment

Teachers frequently express concern that underage children may have difficulties in emotional and social adjustment, i.e., in adjusting to standards of group behavior, forming friendships with older children, tolerating long periods away from home, and meeting work standards. Adequate social and emotional maturity should always be a consideration in making early admission decisions.

Admission policies based upon CA offer no assurance that children will show adequate maturity in social and emotional adjustment. Social maturity shows higher correlation with MA than with CA. Studies of gifted children have shown that they tend to be ahead of their agemates in social and emotional development, as well as in intellectual ability. Studies in which only bright, generally mature children were entered early show that such children do not have difficulties in social and emotional adjustment any more frequently than equally bright children who delay school entrance until the normal age.

Psychologists, teachers, and school principals usually want to meet with early entry candidates and judge for themselves which children appear mature enough to start school. The psychologist may use the Vineland Social Maturity Scale and other tests, in addition to his informal observations of a child, in forming his judgments.

Sex

Because boys more frequently than girls have difficulties in school adjustment and achievement in early years, it has sometimes been suggested that admissions standards should be different for the sexes. Pauly (1951 and 1952), for example, has argued that boys should be admitted at a more advanced age than girls. Such a procedure must be judged to be crude, at best, since many boys are ready for school at ages considered satisfactory for girls. Our attention must be given to individual determinants of school readiness rather than to base rates for sex groups. The suggestion of a simple age differential for school admission of sex groups should be rejected.

Other Variables

Other variables related to success in school and useful in judging readiness for early entry may be listed, such as personality factors, motivation, richness and extent of preschool experiences, attitudes of parents, creativity, reading readiness, and socio-economic status. The judgments made by school personnel about individual children presented for decisions regarding early entry should take into account all such variables. If the question refers to early entry to first grade, reading readiness assumes major importance and formal testing in this area would ordinarily be a part of the assessment procedure.

A question sometimes raised concerns possible harmful effects of acceleration through production of eye strain. Wester (in Keys, 1938) attempted to answer this question by analyzing health records of accelerated students and equally bright nonaccelerated students in high school and found that 13 percent of the accelerants wore glasses compared to 24 percent of the nonaccelerated group. The number of serious eye conditions was about equal for the two groups. It is noteworthy that no evidence of acceleration causing vision problems was produced.

Ophthalmologists have stressed recently that there is no great danger in using what vision a person has. This has led to vastly increased instruction of children with partial sight using ordinary instructional materials. The notion that eye strain results from early education has now largely disappeared. It is normal for preschool children to be somewhat farsighted. Unless the condition is extreme, no adverse effect because of early education need be anticipated.

Studies of Early Admission to School Using Multiple Criteria

Research on acceleration through early admission to school is overwhelmingly favorable to early admission procedure. Studies by Hobson (1948), Smith (1951), Monderer (1954), Birch (1954), Kazienko (1954), Mueller (1955), Cutts and Moseley (1957), Miller (1957), and Stake (1960), for example, all support carefully administered early admission procedures. Reviews of research have consistently pointed favorably to early admission (see Keys, 1938; Pressey, 1949; Worcester, 1956; McCandless, 1955; Norris, 1958; Fliegler and Bish, 1959; and Reynolds, 1960). Through all the years of his monumental *Genetic Studies of Genius,* Terman (1947) consistently recommended moderate acceleration of gifted children.

In all studies cited above early admission was allowed only following individual psychological testing and careful judgments about other facets of school readiness. No studies are known which are unfavorable to this form of acceleration when such selective procedures were applied, but at least one program is reported to have been discontinued on the basis of administrative difficulties. Reported in *Time* (1955) under the title, "Hopping Like a Bunny," is the experience of one school district in moving back to a strict CA admission standard after trying a flexible admissions procedure. Apparently parental objection was the reason for the policy reversal. Successful operation of early entrance programs in many communities demonstrates that parents will usually support the program.

Some of the most comprehensive programs of early admission and evaluations of such programs are summarized in succeeding portions of the present bulletin. Included are Hobson's studies of the Brookline, Massachusetts program which dates back to 1932. In 1956, Hobson described the status of 550 underage children who graduated from high school between 1946 and 1955. Results, given in some detail in the following chapter, are entirely favorable to early admission. It is especially noteworthy that the advantages shown by accelerants were evident in early years and increased regularly throughout their full public school program.

The Brookline data show no reason for fear that accelerants will become socially maladjusted when they reach secondary school levels.

Hobson compared the extracurricular activity participation throughout the four years of high school of the underage and the other graduates in the 1946 and 1947 senior classes. After-school employment was counted as an extracurricular activity. The underage girls and boys averaged 18.8 different activities; the others averaged 12.1 activities. An informal analysis of activity participation of all boys graduating in the ten years from 1946 to 1955 revealed "that the underaged boys seldom achieved eminence in the contacts sports although there was a hockey goalie and a football quarterback among them." Except for this one type of activity, there seemed to be no difference in the kinds of activities participated in by the underage and other students. Compared with their older classmates, the accelerated boys and girls were less often referred to school officials for emotional, social, and other personality maladjustments.

The effects of acceleration as shown in high school and college have been carefully studied by Keys (1938). In one study, Keys and Wester (1938) were concerned with the adjustment of 70 high school pupils having IQs of 120 or over and in line for graduation at 16-8 or younger. Forty-six of these were matched on the basis of sex, grade, IQ, race, and socio-economic status with a group who were graduated at 17-6 or older. These two groups were called experimental and control, respectively. The remaining 24 accelerants had IQs of 136 or above and were treated as a separate high IQ group. A low IQ group of 43 accelerants was also included in this study for comparison purposes. The IQ range for this latter group was 93 to 119 and the age range, at graduation, was from 15-1 to 16-8. The four groups were compared in regard to their scholastic attainment, participation in athletics and other student activities, physical condition, personality adjustment, and attitude. Findings definitely favored acceleration of the high IQ group. Participation in athletics favored the experimental group with 44 percent of the boys playing on the football team compared with 11 percent of the controls. In the tenth grade, however, participation of the older boys was slightly higher than the others. For the girls, athletic participation and honors increased with the IQ of the group. In leadership and extracurricular activities, the high IQ group definitely excelled and the experimental group was somewhat superior to the control group. Bright accelerated students were characterized by counselors as timid, shy, reserved, too studious, or not good mixers, less than half as often as bright *un*accelerated students.

Early admission to kindergarten or first grade usually means the children involved will become underage college students. A comprehensive study of the effects of acceleration at the college level has been provided by Pressey (1949). He, along with other close observers of the effects of acceleration, reports that the risks of social maladjustment have been greatly exaggerated and that not to accelerate superior students could cause maladjustment. He reports that the findings of more than 30 years of experimentation and research on acceleration have been almost universally favorable to moderate acceleration of gifted students.

Gifted boys and girls tend to reach puberty at earlier ages than other children. The Stanford studies have also shown that social and emotional maturity correlate more closely with MA than with CA. Terman and his associates concluded that "the influence of school acceleration in causing social maladjustment has been greatly exaggerated" (Terman and Oden, 1947, p. 275).

Several studies have been reported from Nebraska, where Worcester's students conducted a number of related investigations between 1951 and 1955 (Worcester, 1956). A summary of additional work in Nebraska is provided by Hiskey in Chapter VI of the present volume. Smith (1951), in the Lincoln, Nebraska schools, compared the records of 175 early kindergarten entrants when they were in grades one to five with the records of children admitted at the usual age. The younger ones received equal or higher academic marks and equal or higher ratings on social and emotional adjustment than their older classmates. In the Fairbury, Nebraska schools, Monderer (1954) followed early admitted children through kindergarten and primary grades. Early entering children proved as far advanced as the others in their classes in intellectual, social, and physical maturity. Kazienko (1954) assessed the relative importance of mental age, chronological age, and intelligence quotient with respect to determination of fourth grade achievement. He found mental age to be significantly more influential than the other two separately or in combination.

Mueller (1955) investigated the proposition that younger bright pupils, even though able to do well in school upon early admission, might do even better if they entered school when they were older. He was able to compare groups of children who had received differential treatment in Grand Island, Hastings, and a number of rural communities in Nebraska. Teachers rated 4275 children on achievement, health, coordination, acceptance by other children, leadership, attitude toward school, and emotional adjustment. A small number of the children had been tested and approved for early admission and for various reasons had not started early. No trend appeared which would suggest that waiting had benefited them, and the results from the overall study were in strong support of the generalization that it is to the advantage of children to enter school at younger ages if they are mentally ready.

In summarizing the early Nebraska studies, Worcester says:

> "[the children] who were admitted to kindergarten on the basis of individual mental tests were, on the average, approximately eight months younger than those admitted regularly. There were no statistical differences in physical development. In academic work, the younger did as well or better than their older classmates. Judged by their peers or by teachers' ratings, they are socially and emotionally as well or better adjusted. They have as good or better coordination. They are accepted by their peers. They like school. They do as well or better than those of the same age who were a year later in getting started in school. Indeed, no negative effects have been discerned. As compared with those who took the test but did not pass it, the younger ones had gained a year of school life without loss in social adjustment" (1956, p. 28).

An analysis of the school adjustment of 43 mentally advanced children admitted early to the first grade in the Pittsburgh, Pennsylvania public schools was reported by Birch (1954). The follow-up after one to three years indicated that in the overwhelming majority of instances the children were making satisfactory or better adjustment in the academic, social, emotional, and physical areas. Birch reports that there were very few difficulties with parents whose children were not admitted early, perhaps because all parents had been fully informed about the early admission procedure and given opportunities for individual consultation with psychologists.

Cutts and Moseley (1957) described an experiment in early admission to first grade for mentally advanced children begun in New Haven, Connecticut in 1922. In this instance, the New Haven public schools were in the process of raising the age of admission to first grade for children in general from 5-0 to 5-8 as of the first of September. In October of 1922 eight children who were below the new age requirement were recommended for admission by the school psychologist. All were assigned to first grade, completed the work satisfactorily and moved on to higher grades with increasing success. The plan grew rapidly. Parents proved cooperative, even when their children were not among those admitted early. Follow-up studies through the high school years showed favorable results. This early study indicates that an increase in the age of admission to school for children in general should be accompanied by special provisions for that small but important group of mentally advanced children who are best served by earlier admission.

Sweden has a plan of entrance testing for all children. The test is made up of twelve parts: comparisons, memory span, similarities, knowledge, missing parts, absurdities, classification, patterns, counting, direction, deduction and drawing. The test, called *Skolmogmad Sprovning*, literally, "school-rightness test," is given in May to seven year olds and exceptional six year olds. Total possible score is 100; average scores range from 22 to 30. All those scoring over 20 are passed. Others wait another year. Parents have a right of appeal if they feel the test was in any way unfair .

Edlund (1955) published results of a study done in Karlskrona, Sweden concerning success of early entrance in Swedish schools. Compulsory school age in Sweden is seven years attained January through December. Special regulations issued in 1946 permitted mature and intellectually capable children, as shown by a testing program, to begin school in the year they reach six provided they attain six before July 1. Exceptional cases could start even if birthdays fell after July 1. Slower children, as shown by test, could wait until age eight for school entrance. Since Swedish schools begin at the end of August, children tested and showing the required amount of readiness could begin school at 6-2 —exceptional cases even at 5-8. Late developers could wait until 8-8.

Edlund's study showed a tendency for normal age children to receive higher academic grades in school than early entrants, but, he contends, the differences were due to inconsistencies in grading practices and that actually little is gained by having brighter, more mature children wait a year to enter school.*

Conclusions and Implications

It may be concluded, from the research cited above and that to be summarized in succeeding chapters, that early admission to school of mentally advanced children who are within a year of the ordinary school-entrance age and who are generally mature is to their advantage. Although there are needs for further research, there are few issues in education on which the research evidence now available is so clear and so universally favorable to a particular solution. The chapters which follow offer a practical guide to school officials who wish to accept this challenge.

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* For research relating to Swedish practices, the authors are indebted to Mrs. Margaret H. Pascoe, Teacher, Minneapolis Public Schools.

3 The Brookline, Massachusetts Program of Early Admission to Kindergarten

James R. Hobson

Introduction

Brookline, a town of about 55,000 inhabitants, is bordered on three sides by Boston and on the fourth side by Newton. Until recently, it was the largest municipality in the United States adhering to the Board of Selectmen and Town Meeting form of government. It was also for some years in the past the wealthiest municipality in the country based upon the financial holdings and income of its citizens.

Brookline has adhered to the kindergarten through eighth grade plan of elementary school organization with about 4400 pupil enrollment; a senior high school embracing grades nine through twelve serves about 2300 students. Approximately 1500 boys and girls between the ages of five and 16 attend private schools. High school drop-outs average one and one-half percent per year. Repetition of grade in the elementary schools is very uncommon. About 80 percent of high school graduates go on to post-secondary schools, 65 percent to four-year degree-granting colleges. The average IQ of public school pupils, based upon group intelligence tests, is about 114.

Three factors were largely responsible for the adoption, in 1932, of an elastic system of initial school admission. One important factor was unquestionably the large percentage of Brookline graduates who went on to college followed by graduate school leading to entry into the professions or the business world. Because of the long period of educational preparation required, it was felt that entering school a year earlier would enable the capable individual to enter productive adulthood at least a year earlier.

The second consideration was that by the early 1930's, while the facts of individual differences were becoming well-known and accepted in the profession at least, they were not reflected to any great extent in many areas of educational practice. One of these areas was, and in most places still is, original school admission.

In Brookline it was reasoned that if so much time, effort, and money is spent in trying to provide for individual differences in children after they enter school, why not recognize some of the more reliably measurable differences which exist when children enter school by providing an elastic system of admission.

The third influencing situation was that by this time indiscriminate and excessive acceleration by means of intra-year promotions and grade skipping had brought these methods of acceleration into considerable disrepute, with some attendant unfavorable publicity. It was concluded that the optimum time to accelerate is the time of admission. This procedure avoids the break in continuity of the educative process inherent in any system of grade skipping or intra-year promotion, particularly in the sequential subjects.

Policies and Procedures

With the above considerations in mind, in the fall of 1932 trial admission of children heretofore too young to enter kindergarten was begun. The usual minimum age for the admission to kindergarten was (and still is) 4-9 as of October 1. In 1932, children within three months of this age, that is 4-6 to 4-8 inclusive, were regarded as eligible to be tested for admission. They were admitted on trial if they were passed by the medical director after a physical and health examination and if they showed an MA of at least 5-0 on an administration of the Stanford-Binet Scale of 1916.

Starting in 1933, the age range of those eligible for testing for underage admission was gradually increased until children with CAs of 4-0 through 4-8 were tested and about 50 percent of them admitted on trial. Physical examinations were given at the various elementary schools in May on registration day for the following fall either by the medical director or by physicians working under his direction. Psychological examinations were administered in the office of the Director of Child Placement in the weeks immediately preceding the opening of school. Originally these were all given by the Director of Child Placement starting about August 15. At the present time the psychological testing is carried on within a week of the opening of school by five assistants in the Department of Guidance Services who are remedial teachers as well as psychometrists.

In 1944, as the result of research findings, the chronological age range of those eligible to be tested was reduced so as to include only those underage children born January 2 to July 1. Each year, about two-thirds of the approximately 250 Brookline children born between those dates are presented for examination. About 50 percent of these are admitted, which means that about one-sixth of each entering class are underage children. Also, since 1944 the minimum MA to be attained on the 1937 Revision of the Stanford-Binet Scale has been 5-2. A larger percentage of the children with a CA of 4-8 attain it, with a steadily decreasing percentage of acceptance of those children born February through June.

Recognizing that a child of this age may not always be at his best socially and emotionally on his initial visit to a strange situation, a retest is automatically granted upon request of the parent of any child who does not gain trial admission upon his first attempt. For children who refuse to cooperate because of fear, too great dependence upon the mother, or apparent willfulness, a second or even third attempt may be made. This raises the question of the importance of social and emotional development and adjustment in the readiness of children of this age to begin organized schooling.

There are no well-known, generally accepted, and easily explained objective measures of these traits available for children of this age. Going into a strange place, leaving one's mother to accompany an unknown teacher and proceeding satisfactorily through a standardized procedure for 30 to 40 minutes is in itself a good rough test of social and emotional maturity and adjustment. It is quite possible, even probable, that some of the children who fail to qualify because of social and emotional repercussions are perfectly capable mentally and physically to compete with children who are admitted to school, but school is a social and emotional experience as well as a mental and physical one, and underage admission is granted only to those who can qualify under prescribed and uniform conditions.

An underage child whose admission is approved by the school physician and who has qualified by psychological examination as previously detailed is admitted through a letter to his parents from the Coordinator of Guidance Services as follows:

My Dear Mrs.__________

I am glad to tell you that the results of the psychological examination given (date) by this department have convinced me that your (son, daughter) is entitled to a trial in the (kindergarten, first grade).

Please present this letter, together with a birth certificate, to the principal of the school nearest your home, and your child will be admitted with the understanding that you will be willing to withdraw (her, him) should (he, she) in our judgment, not prove to be ready for the (kindergarten, first grade) activities.

Very sincerely yours,

In actual practice a parent is rarely asked to withdraw a child after a trial period. Parents whose children do not qualify receive the following letter:

My Dear Mrs.__________

I have carefully considered your request that ______ be admitted to the kindergarten. The results of the examination given in this office, however, lead me to believe that your (son, daughter) (, while quite up to normal in mental development for [his, her] age) * is not yet sufficiently mature mentally to compete on even terms with the older children who are admitted without examination and to profit fully by all of the activities of the kindergarten.

I am sorry to disappoint you by not admitting ________ to the kindergarten at this time, but I feel sure that (he, she) will gain both in future school success and the happiness that comes with it by delaying (his, her) entrance another year. All of us want only the thing that is best for the child. I hope that you will eventually agree that our decision is wise. * (If MA is 3 or more months below CA, omit)

It is a hard and fast rule not to discuss the psychological examination or its result with the parent until he has received his letter. Then the staff is glad to discuss and interpret the test result either by appointment or over the telephone. These discussions are conducted in general terms about the nature of the test and what is expected, avoiding identification or discussion of specific test items. The staff does not discuss other children or make comparisons with them.

Evaluation of Program

Initially, community reaction to the selective early admission program was about what one would expect: the parents whose children were admitted were pleased and some of those whose children were not admitted were displeased. Naturally, some attempts were made to apply political and personal pressure for the admission of certain children. All inquiries were answered courteously and much time was spent in explanation but direct pressure was resisted vigorously and rejected. With such 100 percent backing from the superintendent of schools and nearly as complete support from members of the school committee, the public quickly accepted the idea that this program was capably and fairly administered and that neither political influence nor personal persistence could affect the end result. It has been some years since there has been any serious question or objection regarding the program.

From the beginning, seven of the eight elementary school principals accepted the program and cooperated in making it work. The majority of the kindergarten teachers opposed it. They showed this opposition usually by remarks to the parents or by their rating for the year on the annual mark sheet and permanent record card. In discussing these children with the parents, colleagues, or supervisory personnel, many deficiencies from taciturnity to imperfect coordination were often ascribed to the child's being "too young." Of course, another cause had to be found for similar and greater deficiencies in older children. First grade teachers have always supported the program and have never seemed to be so age and birthday conscious as kindergarten teachers.

A few years ago, just after the height and weight measures had been taken, the writer went into a school and asked for the health cards of a fifth grade class containing eight underage admittees. Neither the principal nor the teacher could say who the younger children were and when the class was lined up around the room in order of standing height, the eight underage children were at random positions in the line, neither the tallest nor the shortest being an underage child.

The first formal evaluation of the program, through a study of the subsequent records of the children admitted by test, was made in 1938 and summarized in an unpublished report to the Brookline School Committee covering the first five years of operation of the program. This study yielded the following results:

1. A significantly high positive relationship existed between mental age at entrance and both teachers' marks and standardized achievement test results through grade four.
2. Average marks and achievement test results of the underage admittee group were found to be significantly higher than those of the other children in every grade every year except in kindergarten, where teachers' marks of the underage children were usually but not always slightly lower than those of the other children on the average, despite the reverse being true in the case of averages of standardized reading readiness tests administered to the two groups.

In 1944 the results of ten years of operation of this elastic system of admission were again reported to the School Committee (Hobson, 1948). The data in this study confirmed both conclusions of the 1938 study. In addition they showed that:

1. In academic performance the average superiority of the selected underage children increased as the children progressed through the eight grades of elementary school.
2. The least successful group of underage children was that admitted with an MA rating of 5-0, which was the minimum required.

3. The next least successful group was composed of children more than six months underage, that is the 4-0 to 4-2 CA group, although some individuals in this group were very successful.
4. The underage children originally admitted by test not only exceeded their fellows scholastically on the average but were referred less often for emotional, social, and other personality maladjustments.
5. Because of lower ages for school admission in large communities nearby and the frequent changes of residence in a metropolitan area, by the sixth grade there were more underage children who had moved in after first grade than there were in the group originally admitted by test. By the eighth grade, there were nearly twice as many, and nearly half of the group admitted by test had departed.

As a result of this study the minimum MA required for admission on trial was raised to 5-2 and the privilege of early admission was limited to those within six months of the required minimum CA for all children. This plan has been followed for the past 17 years.

In 1956 a comprehensive study was made of the end results of 23 years of operation of the program involving the 550 underage admittees who were graduated from high school over a ten-year period as compared with their 3891 classmates in the matter of (a) scholastic performance in high school, particularly the junior and senior years; (b) high school activity participation and honors; and (c) relative success in college admissions (Hobson, 1956).

Results and conclusions of this study were as follows:

1. The scholastic superiority in elementary school of underage children originally admitted to school on the basis of physical and psychological examinations is continued and somewhat increased through high school. This conclusion is supported by the statistically significant margin by which both boys and girls in the underage groups exceeded the others in their class in percentage of desirable marks, average point rating on a 4, 3, 2, 1 point rating scale, average rank in class, and in percentage graduated with honors.
2. Underage accelerates engaged in a significantly larger average number of extracurricular activities over the four-year period than did their classmates of the same sex. Their activity participation was not overly weighted with activities of a scholastic nature. Athletic and social honors and elective positions came in for their full share of underage participation.
3. In the matter of honors, awards, and distinctions at graduation, the underage boys and girls exceeded their fellows by a ratio of about two to one.
4. A significantly larger percentage of underage graduates sought and

gained admission to accredited four-year colleges of superior standing than did their classmates.

5. Initial acceleration of children who are within a few months of the usual minimum age for admission to school and who can demonstrate in physical and psychological examinations, physical fitness and mental maturity which will insure their being under no serious initial handicap as compared with the average of their older classmates, is the ideal means of making initial provision for individual differences.
6. The difficulties of administering such an elastic system of admission are more fancied than real. The amount of work involved is considerable and a generous supply of patience, tact and tenacity must be kept on hand. But after all, what new and desirable practice is ever inaugurated without such an outlay? There are no painless shortcuts in education or in psychology.

The Brookline School Committee and the professional staff no longer question the value of the early admission program. It is regarded as the cornerstone of provisions for individual differences and the first step in a concerted attempt to serve the needs of academically talented and gifted children. The increasingly widespread interest in early admission as an ideal method of acceleration is reflected in the constant stream of inquiries about the program which come in at the rate of one to several in a week's time and which have totaled several hundred over the past five years.

Case Studies

While policy must be determined by what happens to the entire group or to its majority or average, the success of any project or policy is more likely to be judged by the general public on the basis of individual instances.

Before presenting a few briefly outlined case studies of the school progress of underage children originally admitted to school on the basis of physical and psychological examinations, some pertinent explanatory observations need to be made.

The purpose of the Brookline Plan has not been just to pick out the superior children for early admission, but rather to provide an opportunity for any child whose parent wished it and who was found to be sufficiently well qualified physically and mentally to compete with the average child in the class. Hence it is possible for a child born on January 2 who is admitted on the minimum required MA of 5-2 to show an obtained IQ of only 109, which is about five points below the town average. This seldom happens. It is also true that the underage admittees include the very superior, the academically talented, and the gifted born during the first half of the calendar year if they are presented for the examination. About all that can be said with absolute assurance about the underage group is that they are all from one day to six months younger than any other child in the grade and that they would with almost no exceptions rank in IQ in the upper half of their grade group. If the purpose were to admit only the potentially superior and gifted it would be necessary to set the mental age requirements much higher and vary them for underage children within the six-month range tested.

One additional observation must be made. Whenever an underage child admitted by tests turns out *not* to be a "world-beater," teachers are apt to say that he "entered too young" and parents may rationalize any disappointment they feel by the thought that if he had only waited until the next year to enter he would doubtless have been an "A" pupil. In fact, there have been requests for the retention in the grade for a second year of underage pupils who received a mark of "C" so that they might become "A" pupils.

Nothing could be further from normal expectation. As indicated earlier in this section, many of these children are only qualified to be "C" or "B" pupils if they work up to normal expectations. When a pupil is mentally qualified to become an "A" pupil and does not become one, the reason usually lies not in his comparative youth but in a deficiency in other personality traits such as curiosity, persistence, industry, cooperation and a host of others which are not likely to be altered merely by repeating a grade.

Following are five case studies selected from the more than 800 underage admittees who have graduated from Brookline High School over the past 17 years, illustrating the different kinds of children admitted early under the Brookline Program.

1. A very able boy with great drive who was a top achiever all the way but had some problems.
2. A gifted girl who was a top achiever through elementary school and high school, engaged in many activities, had no problems and entered a top college.
3. A boy of apparent initial average ability who would not have gained admission if early admission were restricted to the very superior and gifted, who blossomed mentally and scholastically as he progressed through school, ended up a leader, and entered Harvard University.
4. A girl of average ability with considerable artistic talent and voca-

tional interest, who had few problems and entered a teachers' college to prepare for a career in teaching art.

5. A girl of slightly less than average ability for Brookline who entered after a retest with a minimum rating. She had average marks through elementary school with below average personality ratings and objective achievement. Both marks and personality ratings improved somewhat through high school. She engaged in a normal number of extracurricular activities and entered a college of physical education.

Case Study #1

Entrance Examination: CA 4-5, MA 5.5, IQ 123.

Examiner's Comment: "A friendly, talkative, and questioning boy with brown hair and blue eyes. Good interest and effort but attention of short duration."

Scholastic Marks: Kindergarten, B+; Grades 1-8, A; High School, 15 A's, 2 B's. Seven classes at the Advanced Placement level and two at the Honor Level.

Rank in Class: #2 of 393 graduates; #1 of 183 boys.

Group Intelligence Tests: K-A, Grade 5=127; SRA PMA, Grade 8, Median=98th percentile; Cal. M.M., Grade 9=133; ACE Grade 11 =99th percentile; SAT Grade 11, V=651, M—775.

Standardized Achievement Tests: MAT, Grade 8=11.3 (town average= 8.7, Brookline norms); Coop. Read. Cl, Grades 8 and 10, 98th and 97th percentiles respectively; C.E.E.B., Grade 11 English 607, Intermediate Math. 800, Advanced Math 800.

Vocational Interests: KPR percentile scores—Mechanical 77, Computational 95, Scientific 85, Musical 78.

Brookline Personality Rating Scale: In grade 8 rated poor in Social Poise, Popularity, and Leadership, fair in Self Confidence, good in Emotional Stability and superior in Attention, Work Habits, Purposefulness, Appearance, and Citizenship. In grade 11 rated good in Emotional Stability, Social Poise, Popularity and Leadership and superior in all other traits.

Activities: Winner of William H. Lincoln Medal for Excellence in Mathematics, grade 11; first prize at Brookline High School science fair, grades 10 and 11; first prize Norfolk County Math. Assoc. contest, grade 11; secretary, chemistry club; vice pres., biology club; president, mathematics society; treasurer, chess club. Finalist in National Merit Scholarship competition.

His headmaster wrote on his college application, "—— —— is probably the most outstanding all around student in the senior class. . . In addition —— has been generous with his spare time for the betterment of the school."

This boy entered Harvard University as a sophomore under the Advanced Placement program. While he had no difficulty scholastically, his mother's increased dependence upon him because of the death of his father some years before resulted in emotional stress which was successfully ameliorated through psychiatric treatment. He is now a well-adjusted young man, is graduating from Harvard this year and has applied for admission to Harvard Medical School. A younger sister, also an underage admittee, graduated at the 96th percentile of her class scholastically a year ago.

Case Study #2

Entrance Examination: CA 4-8, MA 6-4, IQ 136.

Examiner's Comment: "A large child with a round face and long brown braids. Friendly and self-possessed. Somewhat quiet and stolid in her manner but very competent in meeting the test requirements. Good concentration."

Scholastic Marks: Kindergarten–Grade 7, A; Grade 8, B; High School, 6 A's, 10 B's, three at the Advanced Placement and two at the Honor Level; two of the six A's were in Advanced Placement English.

Rank in Class: #14 of 477 graduates; #8 of 253 girls.

Group Intelligence Tests: K-A, Grade 5=150; Cal. M.M., Grade 9=125; ACE, Grade 11=99th percentile; SAT, Grade 11, V=705, M=678; SRA PMA, Grade 8, Verbal 99+, Reas. 96, Memory 92, Median 86th percentile.

Standardized Achievement Tests: MAT, Grade 8=11.5 (town average= 8.7, Brookline norms); Coop. Cl. Read., Grade 8 and 10, 99+ percentile each; C.E.E.B., Grade 11, English 800, Int. Math. 715.

Vocational Interests: KPR percentile scores—Literary 97, Persuasive 87, Scientific 67.

Brookline Personality Rating Scale: In grade 8, rated good in five traits and superior in five. In grade 11 rated good in eight and superior in Appearance and Self Confidence.

Activities: Editor-in-chief of school newspaper, member of Alpha Pi (school honor society); student forum; debating society; French club; mathematics society; merit rating in Atlantic Monthly Poetry Contest; semi-finalist in National Merit Scholarship competition. Entered Bryn Mawr.

This was a gifted, happy, outgoing girl who had few problems, engaged in many activities, and achieved at about the 97th percentile of her graduating class.

Case Study #3

Entrance Examination: CA 4-8, MA 5-3, IQ 112.

Examiner's Comment: "A quiet boy with dark eyes and dark hair. Worked well. No fear or timidity."

Scholastic Marks: Kindergarten, C; Grades 1-5, B; Grades 6-8, A; High School 12 A's, 6 B's, 2 C's. One A, one B, and two C's were in Advanced Placement classes; three A's and one B were in Honor classes.

Rank in Class: #17 of 570 Graduates; #8 of 273 boys.

Group Intelligence Tests: P-D, Grade 2=125; K-A, Grade 5=131; Cal. M.M., Grade 9=113; SCAT Grade 11=99th percentile; SAT Grade 11, V=659, M=770.

Standardized Achievement Tests: MAT, Grade 8=10.7 (town average—8.7, Brookline Norms); Coop. Cl. Read. Grades 8 and 10, 98th and 91st percentiles respectively; C.E.E.B., Grade 11 English=724, Social Studies=755, Int. Math.=747.

Vocational Interests: KPR percentile scores—Persuasive 99, Clerical 93, Literary 92, Computational 89.

Brookline Personality Rating Scale: In grade 8 rated good in six traits and superior in four. In grade 11 rated good in four and superior in Attention, Work Habits, Purposefulness, Appearance, Emotional Stability and Citizenship.

Activities: Band 1-3; chorus 2-3; sports editor of school paper; student manual; homeroom chairman 4 years; marshal 2 years; house council; business staff of yearbook; president of student government; part-time employment in father's law office. Entered Harvard University.

Case Study #4

Entrance Examination: CA 4-6; MA 5-2; IQ 115.

Examiner's Comment: "Dark haired self-assured child who asked innumerable questions. Good cooperation and interest."

Scholastic Marks: Grades 1 and 4, C; Kindergarten, Grades 2, 3, 5, 6, 7, 8, B; High School, 1 A in Art, 5 Bs, 9 C's, 1 D.

Rank in Class: #176 of 393 graduates; #111 of 210 girls.

Group Intelligence Tests: K-A, Grade 2=116, K-A, Grade 5=114; Cal. M.M., Grade 9=112; SRA PMA Median=47th percentile; SAT Grade 11 V=469, M=372

Standardized Achievement Tests: MAT Grade 8=9.0 (town average= 8.7, Brookline Norms); Coop. Cl. Read. Grades 8 and 10, 66th and 82nd percentiles respectively; Coop. French Test, Grade 12, 50th percentile.

Vocational Interests: KPR percentile scores—Artistic 96, Social Service 78, Literary 69.

Brookline Personality Rating Scale: In grade 8 rated only fair in Self Confidence and Leadership. In grade 11 rated average in five traits and good in five.

Activities: Homeroom chairman; marshal; girls' league; art club; student forum; regular piano and art lessons outside of school. Entered a teacher training college to prepare for a career as an art teacher.

Case Study #5

Entrance Examination: CA 4-8, MA 5-2, IQ 111 on retest.

Examiner's Comment: "A very pretty, pleasant and ingratiating sort of little girl of average size for her age. Happy and cooperative but so bubbling over with enthusiasm as to interfere with concentration. Very well adjusted socially and emotionally."

Scholastic Marks: Kindergarten–Grade 4, B; Grades 5-8, C; High School one A (chorus), 6 B's, 9 C's, 3 D's. One A, 3 B's and one C in senior year.

Rank in Class: #319 of 570 graduates; #181 of 297 girls.

Group Intelligence Tests: P-D, Grade 2=111; K-A, Grade 5=109; Cal. M.M., Grade 9=109; SCAT, Grade 11, V=82nd percentile, Q= 33rd percentile, T=65 percentile; C.E.E.B. SAT V=482, M=365.

Standardized Achievement Tests: MAT Grade 8=8.2 (town average= 8.7, Brookline Norms); Coop. Cl. Read. 84th and 56th percentiles in Grades 8 and 10 respectively; C.E.E.B., Grade 11 English=411, Spanish=338, Biology=333.

Vocational Interests: KPR percentile scores, Grade 11—Social Service 99, Persuasive 89, Scientific 69.

Brookline Personality Rating Scale: In Grade 8 rated poor in Work Habits and Self Confidence; fair in four traits and average in four. In Grade 11 rated only fair in Leadership but good in Purposefulness, Appearance, and Emotional Stability and average in the six other traits.

Activities: Girls' league representative 3 years; dramatic society; student forum; marshal force; writer for student manual; tennis; basketball; gym team; debating society.

Father died suddenly at the end of sophomore year. Entered a girls' college of physical education to prepare to teach this subject.

4 The Early Admission Program in Evanston, Illinois

Vera V. Miller

Introduction

Evanston is a suburb north of Chicago, located on the shores of Lake Michigan. The general economic level is above average, but there are some families of lower level as well. There are many churches, eight parochial schools, two colleges and a university, in addition to the public elementary schools and high school, and the community has the pleasant atmosphere of a college town. One nursery school class is a cooperative venture of Northwestern University and the public schools. There are also nursery schools in connection with many of the churches and a day nursery for the children of working mothers. There are several private schools which admit children of nursery school age.

Procedures

In Evanston, children are admitted to kindergarten if they are five by December 31. Younger children having January, February, and March birthdays may be admitted on the basis of individual testing followed by a six-week trial period. The December 31 date for admission was established in 1940 when midyear enrollments were discontinued. The flexible admission procedure was made part of the program at the same time so that bright youngsters who were ready for school would not have to wait another full year before entering. This was not an innovation, however, but rather an extension of services offered as early as 1925 when parents might request that children be tested to determine readiness for early admission to school.

Not all children having January, February and March birthdays are tested. The first screening is done by parents who fill out a request form for testing in the spring. Some children who might have been accepted are not referred for testing. The psychologist sees the children individually during the summer. The Stanford-Binet Intelligence Test and Goodenough Draw-a-Man Test, plus clinical observation and judgment, form the basis for acceptance or rejection. Physical, emotional and social readiness as well as intellectual ability are considered in making this selection. No IQ or MA limits are specified, but it is unusual for a child with an IQ below 120 to be accepted; on the other hand, a child whose IQ is 150, but who is physically, emotionally or socially immature, would be rejected. If any doubt exists as to a child's ability to cope with the school situation, he is not accepted for early entry. Each year approximately 100 children are tested and about 20 are accepted. The total kindergarten enrollment is about 1000 children. The decision to accept or reject is communicated to the parent directly after the test is completed. If the child is accepted, the parent is reminded that this is on a trial basis and that if it is not in the child's best interest or that of the group, he may be taken out of school until the following year.

There has been some objection to the program of early admission by some kindergarten and first grade teachers. It is true that some of these children will require extra teacher time and attention at early grade levels; others stand out as leaders in the group from the first. The psychologist visits each teacher to inquire about the child's adjustment and also observes him in the class setting before the trial period is completed. Because of careful selection, few are rejected at the end of the trial period.

Case Studies

Case studies of two children may illustrate the procedure in determining readiness for school.

Mary, having a February 4 birthday, had a Stanford-Binet score as follows when tested in July: CA 4-5, MA 5-6, IQ 124. The basal MA was 4-6 and the range of test successes narrow (3 age levels). She was of average size for kindergarten, well developed and physically attractive in appearance.

Motor tasks were difficult for her and she seemed awkward sitting at the desk. The blocks were dropped several times on the floor. She had problems in form perception and in hand-eye coordination. The drawing of a man was immature, consisting of primitive loops.

She was restless and lacked real interest in the tests although she attempted to comply with all requests. She evidenced strong mother dependency by asking constantly if Mother was in the next room, and whether she could go to see her and show what she had done.

Although this child's mental ability and physical size were adequate for early admittance to kindergarten, emotional and muscular immaturities and dependency traits caused us to reject early entry for her.

Jim, having a January 31 birthday, had Stanford-Binet results as follows when tested in July: CA 4-5, MA 6-0, IQ 136. The basal MA was 4-6. The range was 7 levels. Vocabulary was at 8th-year level. He left his mother readily to go with examiner. He was of average size and attractive in appearance.

He was curious about the test kit and printed booklet and eager to attempt the items. He readily understood the directions and was a careful worker. His attention span was long for his age.

He drew the man with good proportion and with details of facial features and clothing. He could print his name, knew the alphabet, recognized many letters and numbers, and could count to 100.

This boy showed every evidence of readiness for school experience and was accepted without question. If he had spent another year in nursery school before entering kindergarten, he would have been among the oldest in the group chronologically, as well as one of the brightest.

Evaluation of the Program

Evanston has a very complete testing program and through the years many studies have been made of those children admitted young to kindergarten. In comparison to others in their classes, they have rarely achieved below the average, and often have achieved at the upper limits of the class. In one study, the Metropolitan Reading Readiness Test scores at the end of kindergarten were used in comparing the reading readiness of different age brackets: *young* (January, February, March—admitted by test), *fairly young* (November, December birthdays), *average* (April-October), *older* (January, February, March). Eighty percent of the young group scored average or superior in reading readiness using Evanston norms, which are above national standards, as compared to 62 percent of the fairly young, 77 percent of average age, and 79 percent of the older group. Scoring among the top 12½ percent were 20 percent of the young, 3 percent of the fairly young, 10 percent of the average age, and 20 percent of the oldest group. Some of these older children might well have entered kindergarten a year earlier had they been referred for testing. Among the lowest 12½ percent, there were none of the young, 24 percent of the fairly young, 12 percent of the average age and 7 percent of the oldest. It is clear from these data that chronological age is not the most important factor in determining readiness for school. A child is not ready for school at a certain chronological age but at a certain stage of development.

As they progress in the grades, the relative standing of underage children improves. The differences in age become proportionally less as time passes. In addition to early admission to school, children shown to be capable by test results and teacher judgment are sometimes placed in the next higher grade. In some cases children accelerated in this way are younger than those admitted on the basis of test to kindergarten. Above primary levels, we have considered pupils admitted young to kindergarten and children who have been double promoted as one accelerated group in our studies.

In the fifth grade (1955) only six percent of the accelerates scored below the first quartile for the school district on an achievement test, as compared to 25 percent of the older pupils, while 40 percent were above the third quartile of the grade. In a recent study of children of superior intelligence, a group of 23 accelerates in the eighth grade was compared with a group of 157 nonaccelerated children who were equally bright (no significant difference in WISC IQs) on the STEP Achievement Test. The accelerates ranked equally high in reading and mathematics and slightly higher in Social Studies than the nonaccelerates. Teachers' marks, teachers' rating scales, library reading, extracurricular activities, creativity in writing, drama and music, and peer ratings were also investigated. No significant differences between accelerates and nonaccelates were revealed. All the research we have conducted on this subject indicates that children accelerated for grade level, when carefully chosen, compare favorably with others who are older in the grades in which they are located.

In an effort to increase the program's flexibility in meeting individual differences of children, the practices of extra promotion and early admission have been adopted in our schools and over a period of years have proved their value.

5

The Early Admission Program in Minneapolis, Minnesota

Sarah F. Holbrook

Introduction

The population of Minneapolis, Minnesota, is just under 500,000. Approximately 75,000 children attend its public schools. Much of the cultural and intellectual life of the city is centered in the University of Minnesota. The university has a tremendous influence on the interests and activities of the city's population and on local attitudes toward education.

About 6000 children enter the public school kindergartens in Minneapolis each fall. A child who becomes five years old on or before December 31 is eligible for entrance. The average age of entrance is five years, three months. In the surrounding suburbs, the age requirement for entrance has been raised one or more months, but no change has seemed indicated in Minneapolis since the time that admissions were made twice a year.

A search of the general files of the Minneapolis Public Schools shows that underage children were admitted to school prior to 1933. Until 1935, early admission was based on the principal's evaluation of a child's maturity and intelligence. Interviews were held with parent and child, and the Detroit Kindergarten Test was administered by the principal. Reports in these early records reflect concern for individual differences, recognition of a need for flexibility in applying regulations, and interest in providing optimal opportunity for bright children.

The services of psychologists were soon utilized in identifying those children who might benefit by early entrance. Minneapolis was one of several cities in which a child guidance clinic was established with

Rockefeller Foundation funds in 1925. Subsequently, this clinic, taken over and supported by the public school system, became the Child Study Department.

The records show that by 1935, individual Stanford-Binet tests were administered by psychologists to applicants after preliminary screening and referral by principals. From the beginning, there was emphasis on consideration of all aspects of the child's developmental level, but a rule of thumb in IQ terms was used as a guide to the child's eligibility. This rule was stated as follows: a child must have a mental age one month above 5 years, 5 months for each month of chronological age below 5 years, 0 months. A child born in January, for example, would be 4-8 in September and would need to earn a MA of 5-9 to be considered for school entrance. The testing was done during the first two weeks of school. If admission was recommended by the psychologist and if space in the kindergarten permitted, the child was then admitted.

Policies and Procedures

The policy of early admission of able children to kindergarten has changed surprisingly little since psychologists began studying applicants in 1935. By parental request, a child who will become five after December 31 is interviewed by the principal of the school which he would attend. This is done during kindergarten registration in the spring or during the period just before the opening of school in the fall. The principal evaluates the child's general information, vocabulary, ability to leave his mother and converse independently, physical size and muscular coordination, and interests and activities. The parent is asked for information about the child's ability to take care of himself in different situations. If the principal believes that the child is advanced in his development, a referral is sent to the Child Study Department for psychological study.

Psychological studies are conducted during the two weeks before the opening of school and may continue into the first week of school. Parents bring the child to the Child Study Department where the psychologist studies him, interprets findings to the parents, and makes a recommendation regarding eligibility for entrance. In most cases, the Stanford-Binet, Form L-M, is administered along with other devices to furnish additional information. Often the child is asked to draw a man, do some free drawing, respond to a picture vocabulary test, or participate in number games. The examining psychologist may observe the child's handling of play equipment, talk with him about interests and experiences, and sometimes see him play with one or two other children. The psychologist then talks with the parents to obtain other information to help complete the picture of the child. The reasons given by the parents for believing the child is ready for school often furnish an important part of the data determining the recommendation. Using all of this information—the description of the principal's contacts with the child, tests and observations of the child, as well as developmental history and behavior data from the parent interview—the psychologist then interprets his findings to the parents and makes a recommendation to the assistant superintendent regarding the child's readiness for school. All admissions are on a trial basis. The principal makes the final decision regarding admission. Occasionally, though rarely, the principal may not accept the psychologist's recommendation. The principal notifies the parents of the decision.

The rule of thumb mentioned earlier for establishing minimum mental age requirements is no longer used. The psychologist uses all the data about the child, but no hard and fast cutting point is enforced. Similarly, the chronological age requirement has been made more flexible. Until 1959, only those children born in January were eligible for consideration. Since then, however, some children born as late as May have been considered for admission. This extension of the CA limit was made because psychologists in private practice or in other agencies had occasionally made recommendations for early admission of very able students born after January. The Child Study Department psychologists reviewed such recommendations and participated in the final decision. In some cases, the child was obviously ready for school. The CA limits were extended, therefore, in order to give equal opportunity to children whose parents were unable to afford private study.

Occasionally children who have had no kindergarten are referred for early admission to first grade; they would perhaps have been applicants for early admission to kindergarten had they lived in the city the year before. These children may be studied in the same way as the younger ones. However, since the kindergarten provides an opportunity to make some of the observations which enter into a decision for suitable placement, the child is frequently entered in kindergarten for two weeks or more to enable the teacher to make observations, and then is seen by the psychologist. If the child seems ready for first grade work, he is moved ahead at once. Sometimes, however, he may attend a half day in kindergarten and a half day in first grade until it is apparent that he is responding well to first grade and to the full-day schedule.

The policy of early admission has been a part of the school program for so long that the community has reacted very little to the occasional newspaper articles about it. The number of applicants changes slightly each year but, as the figures below show, there have been no trends or steady increases.

Number of Applicants for Early Admission

Year	*No.*	*Year*	*No.*
1941	91	1958	88
1946	79	1959	95
1951	67	1960	65
1956	42	1961	58
1957	44		

In general, kindergarten teachers favor the early admission program. Since all admissions are on a trial basis, the teacher's opinion may be sought after the child has been in school for a while or the teacher may initiate a review of the decision if she feels that the child is adjusting poorly.

Evaluation of the Program

Efforts of principals, teachers, psychologists, and administrators to interpret the early admission policy and the values and risks involved, seem to have resulted in general confidence on the part of the community that decisions are made with care. Although individual parents may be disappointed in a decision, it is rare for them to press the issue unreasonably. A heartening correlate of the program is seen in the increasing number of parents of children born in November and December who ask for help in deciding whether their child, though eligible, is actually ready for school.

Some of the children accepted for early entrance are studied informally for a year or more by the psychologist who makes the recommendation. It is the role of the teacher and principal, however, to request re-evaluation if at any time a question arises about the child's placement.

Over the years, only two attempts have been made to follow up on the entire group of early entrants. In 1933, a study was made of about 100 children who had been admitted early over a period of several years. They were underage by amounts ranging from several weeks to eight months. Ninety-three of these children were described as doing satisfactory work. Of the seven who were doing unsatisfactory work, six were boys.

In the spring of 1960, a more intensive study was done. All early entrants in the fall of 1958 and in the fall of 1959 were located. (These children were finishing kindergarten or first grade at the time.) A questionnaire was sent to the principal to be filled out by the principal and teacher. All of the questionnaires were returned. Analysis revealed the following:

1. Eighty-nine children had been recommended for entrance in the two

years—42 in 1958 and 47 in 1959. Of this total, 58 were girls and 31 were boys. They ranged in IQ from 107 to 164.

2. To the question, "Do you believe it would have been better for this pupil to have waited a year to enter school?" teachers responded with an unqualified "No" in 57 cases (64 percent). Thirty-nine of these successful children were girls and 18 were boys.
3. An additional 13 children were thought to be successful with some qualifying statements. A study of these statements seems to justify considering these children as successful also. For example, ten of these 13 children were doing well, but the teacher thought they might have done even better if they had waited, or at least that it would not have hurt them to wait. One child was doing very well but was physically quite small, and two children were thought to have emotional problems which prevented them from doing as well as they might have done. If these 13 children are added to the others, a total of 70 (79 percent) can be described as correctly placed when they were admitted early.
4. Review of the information about those children who in the opinion of the teacher should not have been admitted early reveals that one child was actually dropped after a few weeks' trial, but that all of the others finished the year and all were believed to be ready for first grade at the end of the year. The most common complaints were of social and emotional maladjustment problems. It is scarcely safe to assume that these problems would have diminished if the child had waited a year to enter; possibly they would have been more severe.
5. The relationship between level of intelligence and adjustment of the children was roughly checked. The mean IQ of the children described as unsuccessful was 124 while the mean IQ of the successful group was 138. The seven children admitted with IQs under 120 were all found in the unsuccessful group.

Case Studies

John was the third child in a family of five. Since his birthdate was in January, he could not enter school until he was five years, eight months old. The oldest child in the family was 11 and the second child was eight. John played with the eight-year-old brother and his friends most of the time, although he occasionally enjoyed playing with his agemates. When he discovered that these neighbors were going to school in the fall (having been born in the fall), he was indignant and raised so much argument that his mother finally called the school. The principal, who knew that the older children were bright, invited the mother to bring John over to see her.

In the interview with John, the principal noted the boy's vigorous, healthy appearance and his better-than-average height. John was interested in talking with her and was responsive in conversation. When asked why he wanted to go to school, he said, "So I can learn to read." He knew colors, could count objects, could add and subtract 1 or 2, drew a man with considerable detail, and used a quite mature vocabulary in describing his interests. He liked to be read to, knew some letters, and had learned from his brothers to print his name.

The principal felt that John seemed quite mature. After talking with his mother, the principal referred John for study. The psychologist confirmed the principal's view of John as physically mature. By this time, the child was enjoying the novelty of the new experience and was relaxed and outgoing. He was interested in the Stanford-Binet and showed good attention and effort. He expressed himself well, had much general information, showed good comprehension and reasoning, and related well both to adults and children. On the Stanford-Binet, he earned an IQ of 148.

There seemed little doubt that John was ready for school. He was reaching out for new experiences and was able to meet them with confidence. He was admitted to kindergarten at the age of 4 years, 8 months and today, three years later, is at the top of his class and is respected by other pupils and considered very well adjusted by his teachers.

In other cases the decision about admission is more difficult. To illustrate, two borderline cases will be discussed together.

Mary and Debbie were both born in February. Both are in the same school district, a school in which the enrollment includes the children of professional families and upper-middle-class businessmen. The level of ability in the school is slightly above average.

Mary and Debbie both earned an IQ of 132 on the Stanford-Binet. Mary was rather small for her age and was quiet and composed. She displayed great poise and maturity in social contacts and a confidence that seemed to come from realistic acceptance of herself. She would think over a problem carefully and then say, "I don't know that" or give a concise, well-organized answer. She showed a quick response to humor. She had already learned to read and liked to play school with her friends. In spite of her size and the fact that in a school of this type her ability would not be outstanding, it was decided to give her a trial.

Debbie, on the other hand, had a short attention span, poor motor skills, and quickly became tired and restless in the test situation. Although she was physically more mature than Mary, demonstrated good verbal skill and had as high an ability level as Mary, the psychologist felt that Debbie lacked the maturity and the motivation to get the most out of school. Debbie's parents were told that while her mental ability was superior, she did not seem ready for school in other ways and might do better if she waited for a year.

One other case illustrates a different kind of decision. Ruth was born in January. She is one of seven children in a home in which the father is disabled and the family supported by the mother's night work. The home is in a school district of very low socio-economic level where the average IQ is about 96. Ruth is a large, socially mature, good-humored, comfortable child with very good coordination of both large and small muscles. On the Stanford-Binet she earned an IQ of 124. In view of Ruth's other assets and the kind of school she would be attending, it seemed wise for her to start. Ruth had the lowest measured intelligence of all the underage children admitted that year, but she is doing well.

Conclusion

Early admission of kindergarten children who demonstrate their readiness for school is one of the ways in which the school program in Minneapolis is adapted to meet the needs of gifted children. Some bright children do not seem ready for early school entrance. Those who do enter, however, are generally successful and maintain their superiority throughout their elementary years. Many of these children go on to colleges and universities, often for graduate degrees. The practice of starting them early, if they are ready, and thus adding another year to their productive lives, seems a very valuable one.

6

Twelve Years of Early Admission in Nebraska

Marshall S. Hiskey

Introduction

Nebraska is primarily a rural state approximately 400 miles by 200 miles in size and containing 93 counties. Much of the population and most of the major industries are concentrated in the eastern third of the state. The remainder of the state is rather sparsely settled with much of the land being utilized for farming and ranching. The total population of the state approximates 1,400,000. Most of the communities are small. In fact, there are only two cities, Omaha and Lincoln, which have a population of more than 40,000. As of this date (1962), there are 3272 school districts in the state, with approximately 400 districts having a kindergarten through grade 12 school unit. Twenty-five districts have high school districts alone. In spite of considerable reorganization within the state, over 2800 rural school districts are still in operation. In addition, there are almost 200 parochial and private schools in the state with two or more teachers in their elementary grades. Some of the parochial schools have enrollments of more than 1000 pupils. One moderately large state university, one municipal university, four teachers colleges, eleven colleges and universities sponsored by different religious denominations, and five junior colleges make up the institutions of higher learning.

Policies and Procedures

Prior to 1939 the regulations concerning children's admission to kindergarten were rather indefinite and flexible. In 1939 the State Department of Public Instruction sponsored a law to the effect that no child could enter kindergarten unless he was five years of age on or before October 15 of the current year, and that no child could enter first grade unless he was six years of age by October 15 or had completed kindergarten. An added provision stipulated that a school could admit to kindergarten a child who was younger than the specified age if he showed readiness as determined by State Department criteria. It was not until 1949, however, that an effort was made to unify school entrance requirements of qualified children whose birthdays were after October 15. The new regulation stated that "a child must demonstrate, through recognized testing procedures approved by the State Superintendent of Public Instruction, that he is capable of carrying the work of the kindergarten or beginning grade." This was the first attempt by law to provide a program of examinations by means of which children whose birthdays fall after October 15 could qualify for entrance into kindergarten.

The law probably came into being as a result of the widespread interest in exceptional children exhibited after World War II. It also expressed the concern of a great many parents whose youngsters were barely missing the legal age requirement and thus were having to remain out of school for a full year. This was especially true of those parents who felt that their children were extremely capable and perhaps would be harmed by waiting until they were so far advanced that the school programs were boring to them. Also, at this particular period, early entrance was being advocated by many authorities as a means of acceleration adding a year of productivity to youngsters with high potential.

Prior to 1949, children had been accepted in kindergarten if they had MAs of 5-0 by September 1. The 1949 notice stated that the examination results were to indicate an MA of at least 5 years, 3 months as of September 1. It also pointed out that the score received in the examination of mental maturity was to be considered as only one criterion in the examination. The evaluation of a child's social, emotional, and physical maturity was to be given careful consideration. The recommended minimum was set at 5-0 in these related areas. It was brought forth at this time that children whose birthdays came after December 31 were not to be examined. Although this appeared to be in the way of a recommendation, it seemingly has held as well as if it were a definite statement.

At this same time the Nebraska Commissioner of Education, under Notice 53-214, set forth the qualifications necessary for certification as an examiner. This notice stated that those so certified must have at least a master's degree with a major in educational or clinical psychology, or a master's degree in education with not less than 12 graduate semester hours in educational or clinical psychology. It also stipulated particular courses in individual testing, or their equivalents, which were mandatory, and stated that only individualized, standardized tests of the Stanford-Binet type could be utilized in the examination. It was ruled that only under unusual circumstances were children to be examined earlier than June 1, and in no case was an examination to be given later than September 15. Other regulations were concerned with the time devoted to the examination of each child, the number of children to be examined in each day, the conference with the parent, the official report to staff members at the State Department of Public Instruction and to the County or City Superintendent, and the fee to be charged. This law was permissive and did not require that each school district participate in the program.

It is evident that the qualifications for certification of examiners were rather low at the beginning of the program. The standards have been revised periodically. Starting in 1961, credentials are issued upon application by the individual and recommendation by the college or university personnel who are responsible for his training. Present requirements call for a minimum of 30 semester hours preparation above the master's degree. They also stipulate that the training in individual testing must include some actual clinic experience and that the applicant must be actively engaged in educational or psychological work. The applicant who has received his training outside Nebraska may receive credentials only upon recommendation of a Board of Review appointed by the Commissioner of Education. This Board consists of at least four members and two of these members must hold examiner's credentials. Credentials are issued for a period of five years, but the Department of Education reserves the right to review qualifications and performance at any time and to revoke credentials if this action seems to be in the best interests of children. In 1949, 24 persons were certified. Five of these persons held a doctorate and 19 had master's degrees. In 1960-61, 16 persons were certified who held a doctorate and 37 who had a master's degree. Most persons certified with the master's degree had a considerable number of hours beyond the master's. Forty-nine of these examiners were connected with some college, three were members of the State Department, and one was a person located in a public school.

In 1955, the MA requirement was raised to 5 years, 6 months. Many educators felt that the success of children in this program would be even more assured by demanding a higher minimum level of ability. Since this program is governed by permissive legislation, a school district has the privilege of refusing to admit anyone on the basis of the tests, or it may demand a higher standard than that set by the State Department. This latter privilege was exercised by the Lincoln Public Schools and they eventually set a standard of 6-0, and later a standard of 6-3. It is evident that the utilization of such a high standard almost insures success in the program, but at the same time, as studies quoted later will reveal, it excludes many bright children who could succeed in the program.

It is obvious that the basic purpose of the program was to meet better the educational needs of those children who had attained sufficient intellectual, physical, social, and emotional maturity for entry into kindergarten even though they had not reached 5-0 by October 15. Naturally, with the enactment of this regulation, a number of younger children were entered in the kindergartens of the public schools. A review of the files shows that between 13,000 and 14,000 children were examined during this twelve-year period, with a little over 9000 of the children being approved for entry. Thus, the ratio of those approved to those who were refused admission is a little more than two to one. This ratio appears to be the result of selective factors on the part of parents. Those parents from the better socio-economic homes, and the parents who are rather sure that their child is above average, tend to make referrals whereas parents of less economic means, and those who feel that their children are only average, do not spend the money for the testing. This, of course, produces a very biased sample and seldom has a child been examined who rates below his chronological age.

Evaluation of the Program

It soon seemed desirable and feasible to show something of the rate of achievement and degree of adjustment in school made by younger children. A study by Smith (1951) investigated how children who were admitted to school before the above-mentioned law was passed (thus permitting some children to enter at a younger age than the present law permits) actually achieved and adjusted during their early school years. Upon comparing 175 of the younger children with a random selection of 175 children whose birthdays had come before October 15 of the year they had entered school, she found that in the first grade none of the younger pupils in the experiment, who rated in the strong average or above average category, was less ready for reading than those in the control group. In other words, reading readiness appeared to be more related to mental ability than to chronological age. Throughout the seven years, kindergarten through sixth grade, these children received somewhat better grades than did the control group. She also found that there was a slight tendency for the younger group to be retained more frequently than the older group. However, this relationship was reversed when the frequency for trial promotions was studied. Utilizing a sociometric device wherein classmates were asked to choose their best friends, the younger children scored higher than did their older classmates. The teachers' ratings of the children, with respect to emotional and social adjustment, showed no consistent superiority for either group. Smith came to the conclusion that, "If we exclude children whose fifth or sixth birthdays come after October 15 of the current year from the kindergarten or first grade, we are failing to serve some of those who could succeed in school" (1951, p. 63).

A doctoral study by Monderer (1954) made an evaluation of the academic work and social adjustment of a selection of Nebraska pupils who were admitted to kindergarten early on the basis of psychological examinations. He compared a group of 138 early entrants with 468 children admitted on the basis of the regular criterion of chronological age. He utilized several different groups and compared children in city schools and rural schools. He found no sex differences in academic achievement or social adjustment between early entrance students and regular entrance students at any grade level studied. In addition, the younger children scored as well as children who were on the average of eight months older, though the mental ages were equated. In a second group, which compared children within the same school and in which teachers' ratings as well as standardized tests were utilized, he found significant differences in achievement and social adjustment favoring the early entrance pupils. He also noted trends that suggested increasing superiority of the early entrance children as they progressed through school. In his third group, which compared children in rural schools, there were no significant differences in rating between the early entrance and the regular entrance pupils. In summarizing his findings, Monderer stated that, "Pupils admitted to kindergarten on the basis of tests at a somewhat earlier than average age are as successful as or more successful than their classmates, both in terms of academic achievement and social adjustment" (1954, p. 69).

One of the more extensive studies was done by Mueller (1955). He attempted to determine whether children who were admitted early to kindergarten on the basis of psychological examinations had been able to adjust as well academically, socially, and emotionally as those who were regularly admitted, those who failed to meet the examination criteria, those who did not avail themselves of the opportunity to take the test, those who met the criteria but remained out of school until the subsequent year, those who entered kindergarten despite not having met the criteria, and those who entered kindergarten despite not having taken the examination. A total of 4372 subjects were utilized.

Mueller summarized his findings as follows: "(1) Students who entered kindergarten on the basis of having met the early entrance criteria were rated above all other students on the following traits: achievement; health; coordination; acceptance by fellows; leadership in class; attitude toward school; and emotional development. (2) The students who waited until the subsequent year to enter kindergarten because of having failed to meet the early entrance standards were rated on all traits as not significantly different from the regular students. (3) The students who did not avail themselves of the opportunity to take the examinations and hence remained out of kindergarten until the subsequent year were rated above regular students on all traits but attitude toward school and emotional development. (4) There were very few marked differences between the ratings which boys and girls had received on the traits. (5) There were no definite differences between rural and urban students as their teachers rated them on the traits. (6) No categories of students exhibited a tendency to have been rated as increasingly higher on the traits as they progressed through the grades. (7) Whereas differences in height and weight were found to exist in the early elementary grades, the differences became indistinguishable in the later elementary grades. (8) The following represents in decreasing rank the relative degrees of relationship that were found between achievement and each of the other traits: (a) leadership in class; (b) coordination; (c) emotional development; (d) acceptance by fellows; (e) health; and (f) attitude toward school. (9) The relationship between leadership and achievement was significantly greater for the regular students than for the early entrance students. (10) The relationship between coordination and achievement was significantly greater for the early entrance student than for the regular student. (11) The relationship of both leadership and coordination with achievement was significantly greater for the regular students than for those who failed to meet the early entrance standards" (Mueller, 1955, pp. 193-4).

Mueller summed up his findings by stating that, "Children who satisfy the requirements for early entrance to kindergarten, as specified by the Nebraska school laws, adjust as well as, or better, academically, socially, and emotionally than their older classmates. Children who do not satisfy the requirements for early entrance to kindergarten and thereby remain out of school for one year adjust as well academically, socially, and emotionally as their classmates who were legally old enough to enter kindergarten without having to meet the special standards. Children who may, but do not, avail themselves of the opportunity for early entrance to kindergarten and thereby remain out of school for one year, adjust as well academically and socially, but not emotionally, as their classmates who are legally old enough to enter kindergarten without having to meet the special standards."

It should be pointed out that the children in the Mueller study met the earlier MA criterion of 5-3. At about the time this study was completed, the entrance requirement was raised to 5-6. Thus, one would expect the evidence to be all the more conclusive in relation to success of early entrants under present regulations. Evidence in relation to this point is presented by Stake (1960) in his study of the competence of pupils admitted early to kindergarten. His purpose was to examine the various degrees of academic progress with the early entrance groups.

Stake sampled children who were tested in 1954 and 1955 for early entrance. (Pupils from the Lincoln and Omaha schools were not included in the study.) He utilized the results of achievement tests administered by the schools when the child was in the third grade. All test scores were adjusted to January 1. A total of 473 cases was in his final sample. Through statistical analysis of the data, he was able to give the predicted grade equivalents from the preschool Stanford-Binet MA. His tables show that entering children who have a preschool MA of 5-8 will be, on the average, over half a year above the national mean on achievement tests at the end of the third grade. Early entering children who had a preschool MA of 6-7 will be, on the average, over a year above the national mean. Apparently children who are very intelligent are likely to be among the top achievers of the class, even when they are the youngest pupils in the class.

Using various levels of Stanford-Binet MA scores for early entrants, Stake calculated the percentage of pupils who can be expected to achieve above the 25th, 50th, 75th and 90th percentiles, with regard to nationally normed achievement tests. A few samples from his more elaborate table give the following interesting results.

Preschool Stanford-Binet MA	*Percentage of population eligible*	*P25*	*P50*	*P75*	*P90*
		Percentage of admitted pupils above			
5.0	39	91	73	44	20
5.3	25	94	78	51	25
5.5	17	96	82	56	30
5.8	9	96	87	64	37
6.0	5	98	90	70	42
6.3	2	99	93	77	51
6.5	1	99	96	82	57

Thus, we see from this chart that in the group of early entrants who have preschool Stanford-Binet MAs of 5-6, 96 percent will exceed the 25th percentile of nationally normed achievement tests, 82 percent will exceed the 50th percentile, 56 percent will exceed the 75th percentile, and 30 percent will exceed the 90th percentile. Since this is the minimum MA of a child accepted for early admission to the Nebraska schools, it would appear that the vast majority of the pupils so accepted will not only meet the academic requirements of the school, but will be in the top half of the class. Since a large number of the early entrants surpass this minimum, the outlook should be even more optimistic.

All studies made to date reveal that the early entrants, as a group, rate as well as or better than the children who enter on the basis of chronological age. Yet in spite of the preponderance of positive evidence in relation to the program, some teachers and school administrators feel that these children should not be accepted in the schools. Many school administrators and county superintendents do not want to bother with the details of the testing and the program. Some are concerned with the explanations to parents whose children do not meet the criteria. They do not want to face pressures from such parents.

Some educators feel that the acceptance of young bright children robs other children of needed attention. In spite of the overwhelming evidence to the contrary, they will argue that the child is too young to profit from academic training. Others, with great concern, have stated that some children may be done "irreparable" harm through early admission, giving little consideration to the "irreparable" harm that may be done to many other children who are more than ready for school. These children are forced to wait another year to enter kindergarten when they are mentally and emotionally ready for a much greater challenge. Rural school teachers often are reluctant to add underage children to their already heterogeneous group, and of course Nebraska has a very large number of rural schools. Some parents whose children failed to meet the requirements are inclined to scoff at the program and to discourage neighbors and relatives who are interested in having their children examined.

It is evident, from the fact that only 1000 to 1400 children are tested each year, that many children are not receiving the advantages of the program. In summing up the situation Worcester (1956), who played a prominent part in the development and early evaluation of the Nebraska program, stated emphatically that the early entrance program is "a justifiable educational policy" and indicated that it would be difficult for educators to justify a position of refusal to participate.

There is every reason to assume that the Nebraska program will continue. Would that we could be assured that as many of our regular entrants would adjust and progress as well in school as the early entrants do.

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